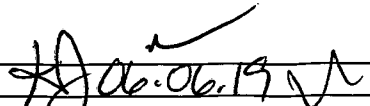
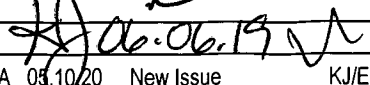


Date: Monday, 6/19/2006 11:29:49 AM  
 User: Kim Johnston

## Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: MID TUBE ASSEMBLY
Job Number	: 27636		
Estimate Number	: 10469	Part Number	: D3391023
P.O. Number	: N/A	Drawing Number	: D3391 REV E
This Issue	: 6/19/2006 S.O. No. : N/A	Project Number	: N/A
Prsht Rev.	: NC	Drawing Revision	: E
First Issue	: N/A Type : LANDING GEAR	Material	: N/A
Previous Run	: 26830	Due Date	: 7/20/2006 Qty: 1 Um: Each
Written By	: 		
Checked & Approved By	: 		
Comment	: Est. A 05.10.20 New Issue KJ/EC Est. B 06.02.10 ECN773 dwg rev.D EC		

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

1.0	D25001100	Skidtube Extrusion
-----	-----------	--------------------



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

SKIDTUBE EXTRUSION

Pick:

Qty	Part Number	Description	Batch
1	D2500-1-100	Extrusion	B24593 DP06-621

2.0	LANDING GEAR 1	LANDING GEAR RESOURCE 1
-----	----------------	-------------------------



Comment: LANDING GEAR RESOURCE 1

1-Cut tube to finish length as per Dwg D3391

2-Identify as D3391-023

3-Drill pilot holes using DT8796 as per Dwg D3391

4-Open float bag holes to Ø0.250" as per Dwg D3391 using DT8796D visual aid Jig

5-C'sink float bag holes as per Dwg D3391

6-Open remaining holes to Ø0.375"

7-Rmove .030" from Fwd indexing Ridge as per Dwg D3391

8-Remove indexing ridge on Fwd &amp; Aft end of skidtube as per Dwg D3391

9-Deburr

10-Drill #30 pilot holes using wearplate Jig DT8217 Identify Ø0.208" holes with paint marker

11-Open wearplate holes of D3391-023 assembly detail section G-G to Ø0.208" (14 holes) as per Dwg D3391

12-Open wearplate holes of D3391-023 assembly detail section H-H to Ø0.250" and c'sink (20 holes) as per Dwg D3391

13-Open .375" holes to .438"

DP  
06-6-22

W/O:		WORK ORDER CHANGES				
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	A M

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

NOTE: Date & initial all entries

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Date: Monday, 6/19/2006 11:29:49 AM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: MID TUBE ASSEMBLY

Job Number: 27636

Part Number: D3391023

Job Number:



Seq. #:

Machine Or Operation:

Description :

114-Deburr and blow out all chips from inside tube

*DP 06-6-22*

3.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

*06-06-26 ①*

4.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

*RT 06-07-04*

5.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

*M101975*

*9.11*

*06/10/10*

*②*

6.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

*BE 06-07-07*

7.0

D33891

Web



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

WEB

Pick:

Qty

Part Number

Description

Batch

1

D3389-1

Web

*027656*

A/R

Sikaflex-241/-291

*M101193*

Sikaflex expire date: *06-11-01*

Start: *06-07-07* Time: *9:15*

Finish: *06-07-08* Time: *7:00*

*RT 06-07-07*

8.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

Bond web in place as per Dwg D3391 & QSI 015.

Adhere for 12 hours)

*RT 06-07-07*

9.0

NAS1330C3KB116

Insert



Comment: Qty.: 20.0000 Each(s)/Unit Total: 20.0000 Each(s)

Insert

Pick:

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector
					55		

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes ☒ No ☐ DQA: ☒ Date: 06/10/11

NOTE: Date & initial all entries QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Date: Monday, 6/19/2006 11:29:50 AM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: MID TUBE ASSEMBLY

Job Number: 27636

Part Number: D3391023

Job Number:



Seq. #:

Machine Or Operation:

Description :

Qty

Part Number

Description

Batch

20

NAS1330C3KB116

Insert

MP349 FC06 - 10-10

(1)

10.0

NAS1330C3KB166

INSERT



Comment: Qty.: 10.0000 Each(s)/Unit Total : 10.0000 Each(s)

RivnuT

Pick:

Qty Part Number

Description

Batch

10

NAS1330C3KB166

Insert

100732 FC 06 10 10

(1)

11.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

Install inserts as per Dwg D3391

FC 06 10 10

(1)

12.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

Inspect each insert using DT8821

06/10/10 MM

(1)

13.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

FC 06 10 10

(1)

14.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: N/A

FC

06 10 11

(1)

15.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

06/10/11

Job Completion



u 06-10-11

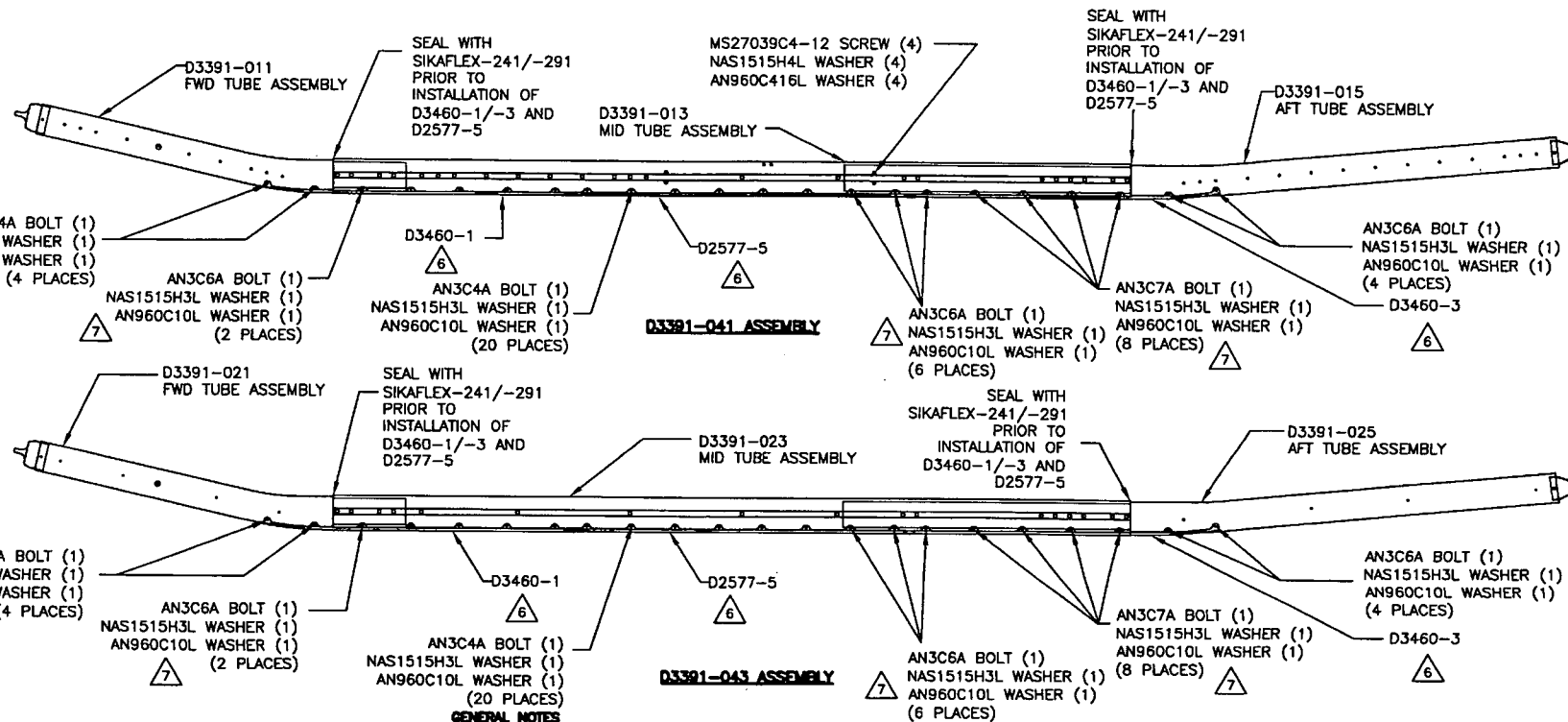
W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector	

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

NOTE: Date & initial all entries

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_



**D3391-041/-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST**

QTY - 041	QTY - 043	PART NUMBER	DESCRIPTION
X	X	D3391-041	FLOAT SKIDTUBE ASSEMBLY
		D3391-043	FLOAT SKIDTUBE ASSEMBLY
1		D3391-011	FWD TUBE ASSEMBLY
1		D3391-013	MID TUBE ASSEMBLY
1		D3391-015	AFT TUBE ASSEMBLY
	1	D3391-021	FWD TUBE ASSEMBLY
	1	D3391-023	MID TUBE ASSEMBLY
	1	D3391-025	AFT TUBE ASSEMBLY
24	24	AN3C4A	BOLT
12	12	AN3C6A	BOLT
8	8	AN3C7A	BOLT
44	44	NAS1515H3L	WASHER
44	44	AN960C10L	WASHER
4		MS27039C4-12	SCREW
4		NAS1515H4L	WASHER
4		AN960C416L	WASHER
1	1	D2577-5	WEARSHOE
1	1	D3460-1	WEARSHOE
1	1	D3460-3	WEARSHOE

**GENERAL NOTES**

- 1) ALL DIMENSIONS ARE IN INCHES
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) FINISH: ACID ETCH AND ALODINE PER DART QSI 005 4.1  
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 4) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROXYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL 'E' SIZE HOLES (#0.250-#0.257) FOR WEARSHOE INSERTS.
- 6) C/SINK #0.391/#0.425 x 100" AS APPLICABLE AND INSTALL INSERTS EXCEPT WHERE INDICATED.
- 7) APPLY A LAYER OF SIKAFLEX -241/-291 ADHESIVE BETWEEN THE BOTTOM OF THE SKIDTUBE ASSEMBLY AND THE WEARPLATES  
DO NOT TORQUE, HAND TIGHTEN ONLY

**D**

**RELEASED**

06-05-03

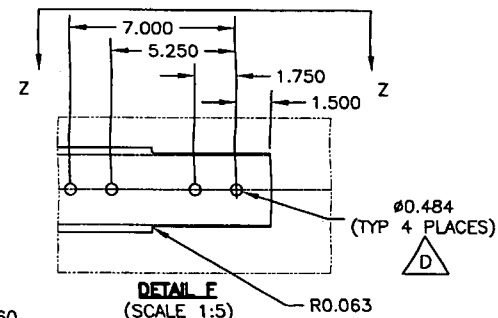
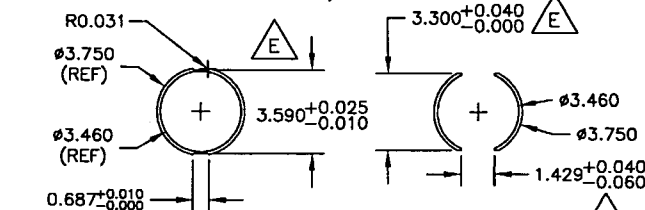
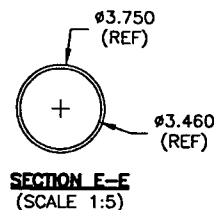
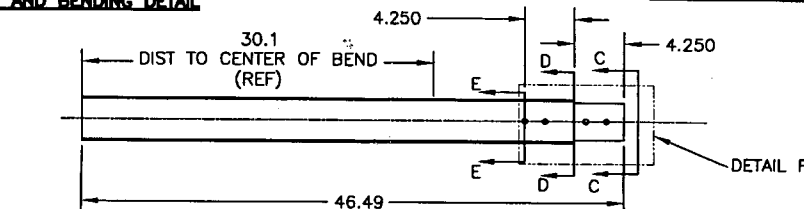
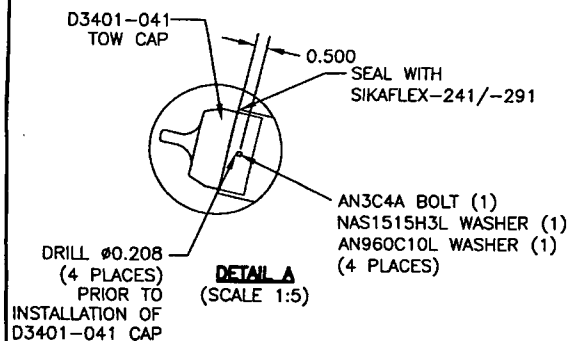
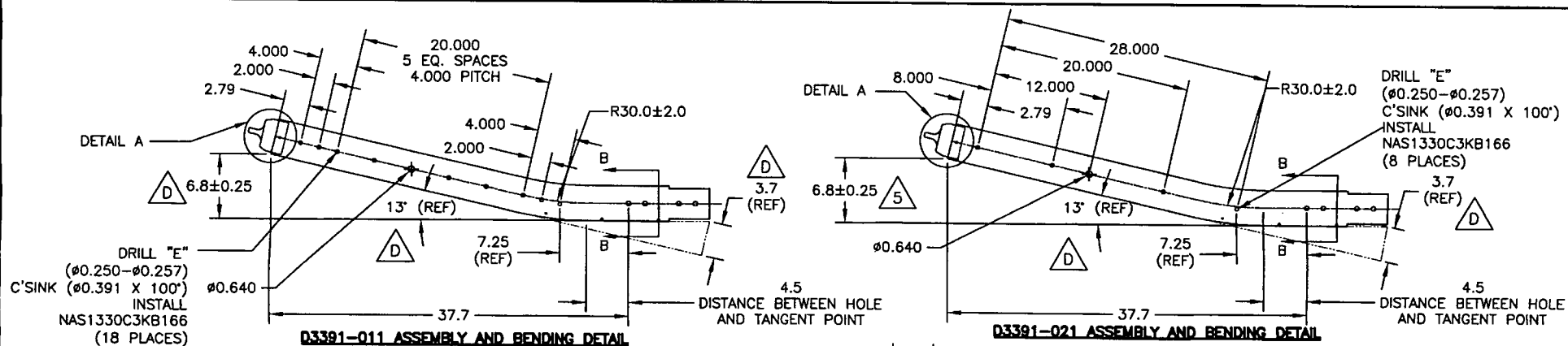
E	06.04.25	CHANGE TOLERANCE, EASE MANUFACTURE
D	06.01.23	UPDATE TOLERANCE, CHANGE HOLE SIZE
C	05.09.27	LENGTHEN AFT EXTENSION
B	05.06.10	DRAWING UPDATES
A	05.02.07	NEW ISSUE
DESIGN	PH	DRAWN BY PH
CHECKED	PH	APPROVED
DATE	06.04.25	TITLE
		412 FLOAT SKIDTUBE
		NTS

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**DART AEROSPACE USA, INC.**  
PORT HADLOCK, OH

DRAWING NO. D3391  
SHEET 1 OF 3  
SCALE

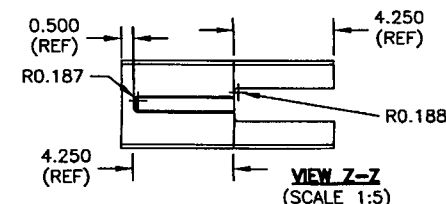
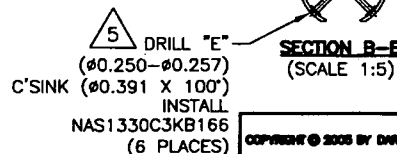


RELEASED

06 05 03

# **D3391-011/-021 FWD TUBE ASSEMBLY PARTS LIST**

QTY - 011	QTY - 021	PART NUMBER	DESCRIPTION
X	X	D3391-011	FWD TUBE ASSEMBLY
		D3391-021	FWD TUBE ASSEMBLY
1	1	D6013-047	FWD TUBE
1	1	D3401-041	TOW CAP
4	4	AN3C4A	BOLT
4	4	NAS1515H3L	WASHER
4	4	AN960C10L	WASHER
24	14	NAS1330C3KB166	INSERT

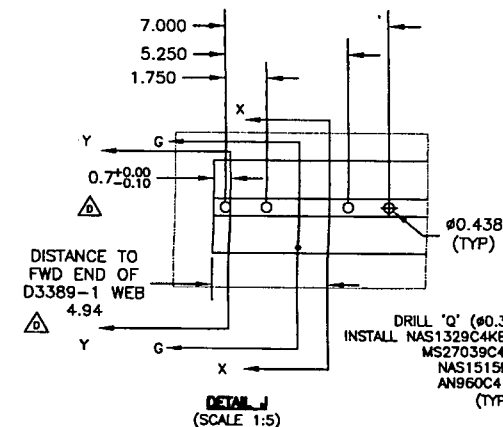
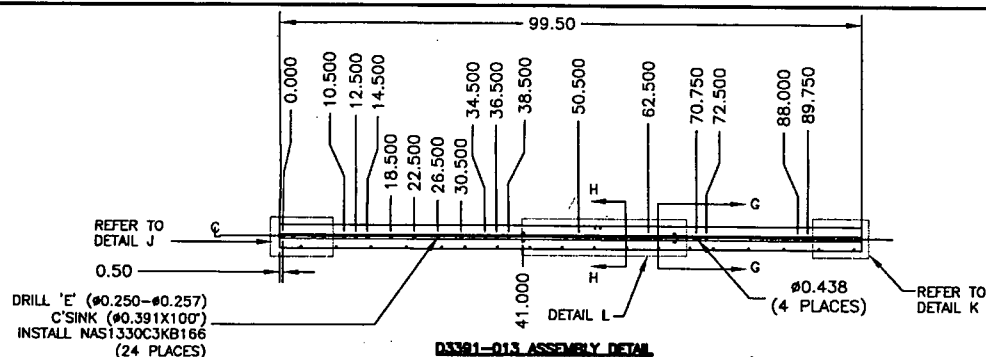


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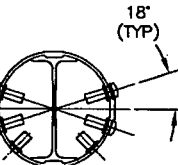
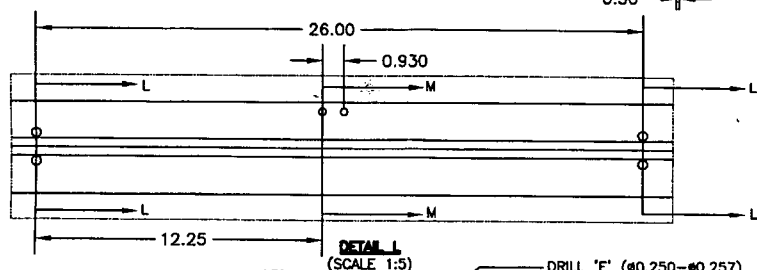
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CHECKED	#	APPROVED	#	DRAWING NO.	D3391
DATE	06.04.25	TITLE	412 FLOAT SKIDTUBE	REV. E	SHEET 2 OF 5
				SCALE	1:10



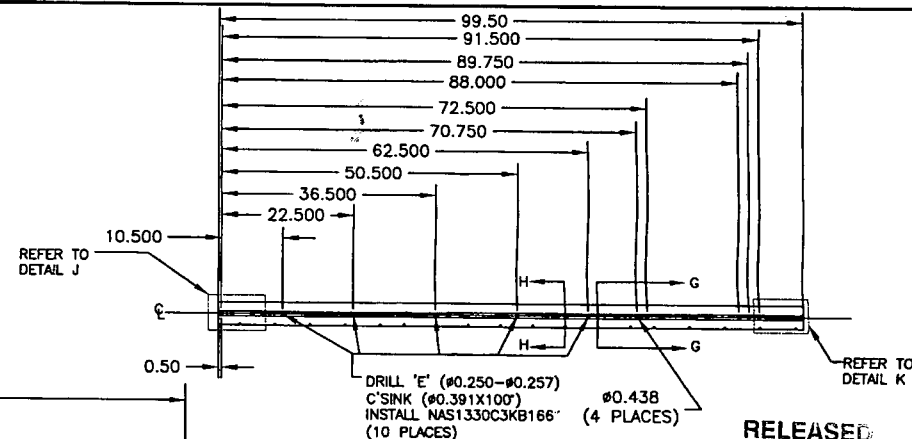
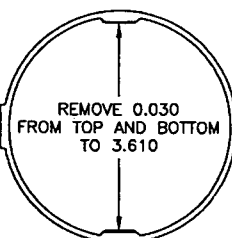


DRILL 'Q' (#0.332-#0.338)  
INSTALL NAS1329C4KB140 INSERT  
MS27039C4-08 SCREW  
NAS1515H4L WASHER  
AN960C416L WASHER  
(TYP 4 PLACES)

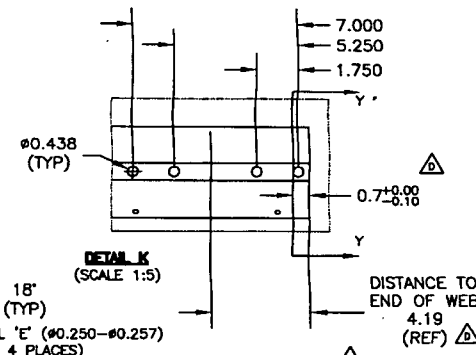


DRILL 'E' (#0.250-#0.257)  
C'SINK (#0.391X100)  
INSTALL NAS1330C3KB116 INSERT  
MS27039C1-09 SCREW  
NAS1515H3L WASHER  
AN960C10L WASHER  
(TYP 4 PLACES)

**SECTION M-M (SCALE 1:4)**



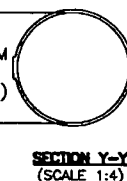
**D3391-023 ASSEMBLY DETAIL**



NAS1330C3KB116 INSERT (TYP 20 PLACES)  
45' (TYP)  
45' (TYP)  
0.250  
45' (TYP)  
18' (TYP)  
DRILL 'E' (#0.250-#0.257) (TYP 4 PLACES)

**SECTION Q-Q (SCALE 1:4)**

**SECTION U-U (SCALE 1:4)**



**D3391-013/-023 MID TUBE ASSEMBLY PARTS LIST**

QTY - 013	QTY - 023	PART NUMBER	DESCRIPTION
X	X	D3391-013	MID TUBE ASSEMBLY
		D3391-023	MID TUBE ASSEMBLY
1	1	D2500-1-100	EXTRUSION
1	1	D3389-1	WEB
24	20	NAS1330C3KB116	INSERT
24	10	NAS1330C3KB166	INSERT
4		NAS1329C4KB140	INSERT
4		NAS1515H3L	WASHER
4		AN960C10L	WASHER
4		NAS1515H4L	WASHER
4		AN960C416L	WASHER
4		MS27039C1-09	SCREW
4		MS27039C4-08	SCREW

**D3391-013/-023 MID TUBE ASSEMBLY**

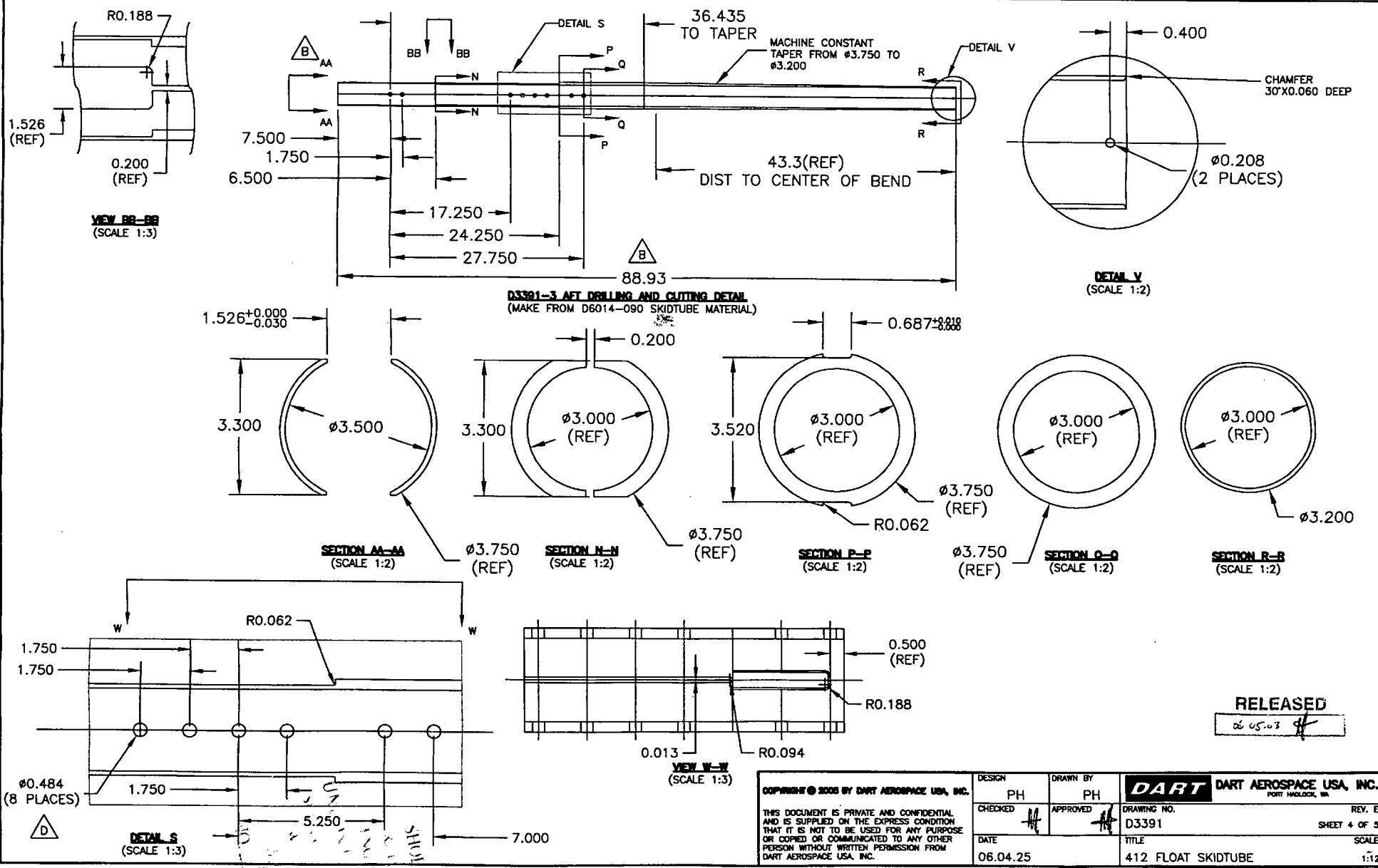
- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/-291 PER QSI 015

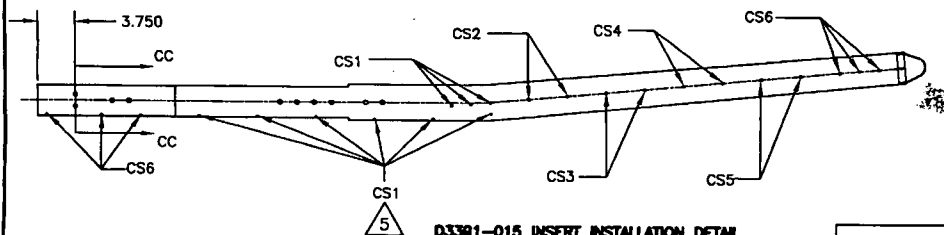
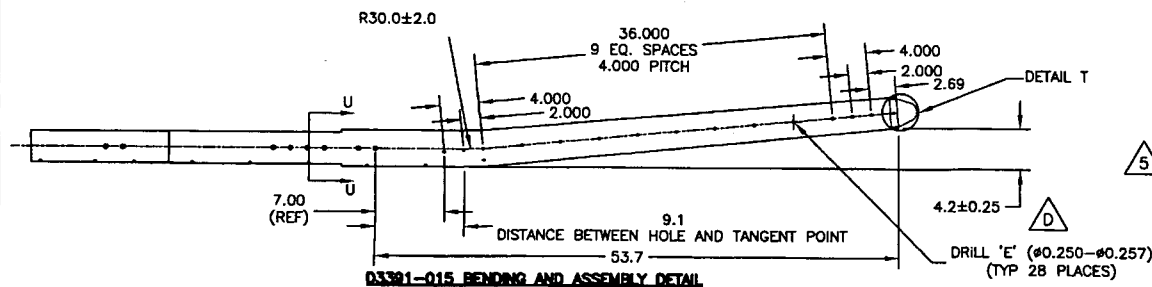
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DESIGN PH	DRAWN BY PH	<b>DART</b> DART AEROSPACE USA, INC. PORT HADLOCK, VA	REV. E
CHECKED #	APPROVED #	DRAWING NO. D3391	SHEET 3 OF 5
DATE 06.04.25	TITLE 412 FLOAT SKIDTUBE	SCALE 1:20	

27636



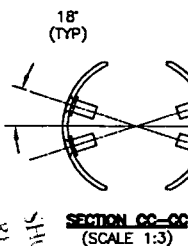


C'SINK AND INSTALL AESS10KBXXX AND/OR NAS1330C3KBXXX IN HOLES MARKED CS1-CS6 AS FOLLOWS

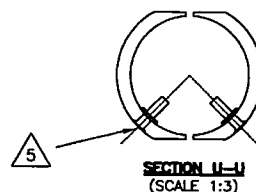
HOLE MARKED	QTY D3391-015	CTY D3391-025	C'SINK	P/N
CS1	18	14	Ø0.425	AESS10KB386
CS2	2		Ø0.391	AESS10KB386
CS3	2	2	Ø0.391	NAS1330C3KE316
CS4	2	2	Ø0.391	NAS1330C3KE266
CS5	2		Ø0.391	NAS1330C3KE216
CS6	12	8	Ø0.391	NAS1330C3KE166

**D3391-015/-025 AFT TUBE ASSEMBLY PARTS LIST**

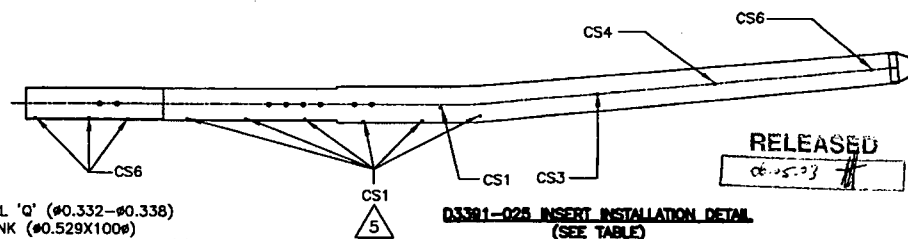
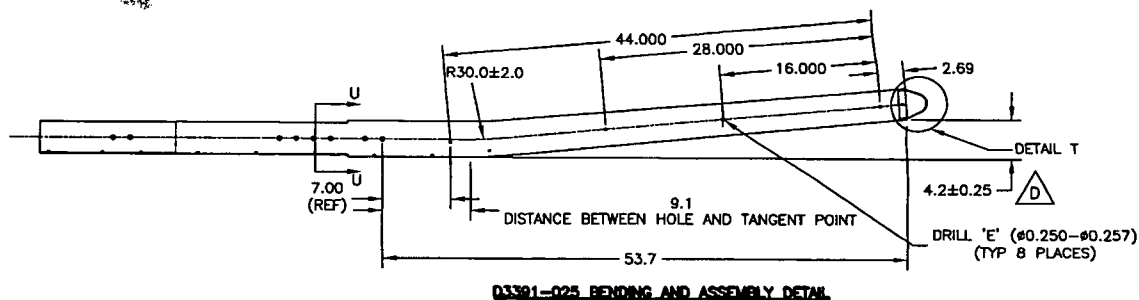
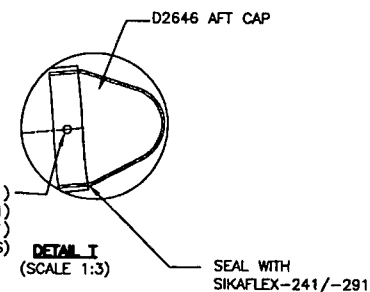
QTY - 015	QTY - 025	PART NUMBER	DESCRIPTION
X		D3391-015	AFT TUBE ASSEMBLY
	X	D3391-025	AFT TUBE ASSEMBLY
1	1	D6014-090	AFT TUBE
1	1	D2646	AFT CAP
18	14	AESS10KB386	INSERT
4	2	NAS1330C3KB318	INSERT
4	2	NAS1330C3KB268	INSERT
4		NAS1330C3KB218	INSERT
12	8	NAS1330C3KB166	INSERT
4		NAS1330C4KB151	INSERT
2	2	AN3C4A	BOLT
2	2	NAS1615H3L	WASHER
2	2	AN960C10L	WASHER



DRILL 'Q' (#0.332-#0.338)  
C'SINK (#0.529X100#)  
NAS1330C4KB151 INSERT (1)  
(4 PLACES)



AN3C4A BOLT (1)  
NAS1615H3L WASHER (1)  
AN960C10L WASHER (1)  
(2 PLACES)



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DESIGN	PH	DRAWN BY	PH	<b>DART</b> DART AEROSPACE USA, INC. PORT HADLOCK, OH
CHECKED		APPROVED		DRAWING NO. D3391
DATE	06.04.25	TITLE	412 FLOAT SKIDTUBE	REV. E SHEET 5 OF 5 SCALE 1:12